REMARKS/ARGUMENTS

Claims 1-4 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of Maki, U.S. Patent No. 6,689,984, in view of Arami et al., U.S. Patent No. 5,275,683. Reconsideration of the rejection is respectfully requested.

Independent claim 1 has been amended to provide, in part, for, "[a] susceptor device comprising: ... an insulating sprayed layer, formed by a sprayed ceramic, which covers the inner electrode, and a connecting section of the inner electrode and the electricity supplying terminal; ... wherein ... "the insulating sprayed layer has a thickness in the range of 20 μm to 500 μm." Claim 2 has been canceled, without prejudice or disclaimer, since it is now redundant to amended independent claim 1. New claims 5 and 6, dependent on independent claim 1, have been added.

The present invention is characterized by an insulating layer, formed by sprayed ceramics having 20 μm to 500μm thickness, which is used for solving a problem in conventional susceptors in which plasmas and heating energy emitted from a temperature controlling section could not be transmitted effectively due to a ceramic supporting plate 3, (shown in Fig. 3 of the application), having 3 mm thickness.

In contrast, Maki discloses a first substrate 21 and a second substrate 23 are made of the same composition, or the principal component is the same insulating material in both of the substrates, (column 4, line 57 - column 5, line 5), in order to prevent cracks from being generated in a susceptor due to a difference of thermal expansion coefficients between the substrates. In Maki, there is no intention to improve the thermal conductivity between the temperature controlling section and a wafer mounted on a top surface of the susceptor. Therefore, the susceptor disclosed in Maki lacks the following features claimed in the rejected claims: a flow path; an insulating sprayed layer formed by a sprayed ceramic; and the ceramic insulating layer having 20 μm to 500 μm thickness.

Moreover, Arami et al. discloses a distance Rx of a wafer 22 projected from an end portion of a conductive film 20c in an electrostatic chuck sheet 20 wherein the distance is made smaller than that of a conventional susceptor by forming corner sections of a rim section 20d,

including insulating layers 20a and 20b which sandwich a conductive film 20c, in order to prevent a decrease in electrostatic chucking force in a non-overlapping portion of the conductive film 20c and a wafer 22. Column 5, lines 5-7, of Arami et al., merely discloses that the insulating layers 20a and 20b are formed by a high molecular resin. Arami et al. discloses no intention to improve the thermal conductivity between the temperature controlling section and a wafer mounted on a top surface of the susceptor. Therefore, the susceptor disclosed in Arami et al. lacks the following features of the claims: an insulating sprayed layer formed by a sprayed ceramic; and the ceramic insulating layer having 20 μm to 500 μm thickness.

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Inazumachi et al. (JP 2001-313331). Claims 2-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inazumachi. Reconsideration of the rejections is respectfully requested.

Inazumachi discloses an electrostatic chucking device. The abstract of Inazumachi discloses that a thermal expansion buffer layer 4 and a temperature controlling section 2 are attached using an explosive joining method in order to solve a problem that thermal conductivity between a wafer and the temperature controlling section 2 is reduced by a cementing layer 44. Paragraph [0022] of Inazumachi states "it is preferable that an insulating layer 47 is formed using a sintering method (i.e., the layer 47 is a ceramic member) in the electrostatic chucking device." However, the electrostatic chucking device of Inazumachi lacks the claimed feature of the present invention that the ceramic insulating layer is of 20 μm to 500 μm thickness.

The present invention is based on an insight that if the thickness of the ceramic insulating sprayed layer is 20 μm or greater is preferable because it is possible to maintain insulation and voltage durability. On the other hand, the thickness of the ceramic insulating sprayed layer of 500 μm or less is preferable because it is possible to maintain the thermal conductivity between a plate sample (i.e., a wafer), mounted on a mounting surface 22a of the ceramic base body 22 of a susceptor device 21, and the temperature controlling section 27, and it is possible to maintain a stable temperature of the plate sample under process," (see page 12 of the specification, lines 8-19).

The above feature of the present invention enables an unobvious effect of improving the thermal conductivity. In contrast, the above-mentioned references do not disclose, teach, or

suggest an insulating layer having 20 μm to 500 μm thickness. Therefore, the apparatus disclosed in these references cannot have the previously mentioned effect.

In view of the foregoing amendments and remarks, allowance of claims 1 and 3-6 is respectfully requested.

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